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REMARKS/ARGUMENTS

The Examiner's Office Action of March 17, 2005 has been received and carefully considered. Claims 1-30 are pending in the application. Claims 1-5, 7-15, 17, 20-22 and 28-30 are rejected. Claims 6, 16, 19 and 23-27 are objected to. By this amendment claims 2, 6-7, 14, 16, 17, 19, 20, 23, 24, and 28 are amended; and claims 1, 3-5, 8-13, 15, 18 and 29-30 are canceled; and claims 31-50 are added. Accordingly, upon entry of these amendments, claims 2, 6-7, 14, 16-17, 19-28 and 31-50 will be pending in the application.

For the reasons discussed in detail below, Applicant submits that the application is in condition for allowance.

I. Claim Objections - Allowable Subject Matter

Claims 6, 16, 19, and 23-27 are objected to as being dependent upon a rejected base claim. Applicant acknowledges with appreciation the Examiner's indication that these claims would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims. By this amendment, Applicant has rewritten claims 6, 16, 19 and 25 in independent form including all of the limitations of the base claim and any intervening claims. Claims 2 and 7 are amended to be dependent upon independent claim 6, as amended; claims 14 and 17 are amended to be dependent upon independent claim 16, as amended; and claims 20 and 28 are amended to be dependent on independent claim 19, as amended. Accordingly, Applicant submits that claims 2, 6-7, 14, 16-17, 19, 20, 23-28 are now in condition for allowance.

II. Rejections Under 35 U.S.C. 102

Claims 1, 2, 9-12, 18, 20-22, and 28-30 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,007,558 to Ravenscroft et al. Of these claims, claims 1, 9-12, 18, and 29-30 are canceled, rendering the rejection of these claims moot.

The remaining of these rejected claims, i.e., claims 2, 20-22 and 28, are dependent on claims now containing allowable subject matter. Accordingly, Applicant submits that the rejection of claims 1, 2, 9-12, 18, 20-22, and 28-30 should be reconsidered and withdrawn.

Claims 1-5, 7-11, 13, 14, 15 and 17 are rejected under 35 U.S.C. 102(b) as being

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anticipated by U.S. Patent No. 6,231,589 to Wessman et al. Of these claims, claims 1, 3-5, 8-11, 13, 15 and 17 are canceled, rendering the rejection of these claims moot. With this amendment, the remaining of these rejected claims, i.e., claims 2, 7, 14 and 17, are dependent on claims which now contain allowable subject matter. Accordingly, the rejection of claims 1-5, 7-11, 13, 14, 15 and 17 should be reconsidered and withdrawn.

In any event, Applicant notes that the cited references to Ravenscroft et al. (6,007,558) or Wessman et al., (6,231,589), either taken along or combined, do not contemplate a filter method or structure capable of retaining anchors within filter legs as they engage a vena cava inner wall surface and projecting anchors through a vena cava wall for expansion against the outside surface of the wall subsequent to expansion of the filter into engagement with the surface of the inner wall. Instead, both of these patents show the use of hooks which are proximally oriented and exposed at the end of a filter leg or wire so as to be caused to engage the vena cava wall by expansion of the filter legs or wires. (Wessman et al., column 5, lines 38-42; Ravenscroft et al., column 4, lines 53-58.)

Applicants' claimed anchor and anchor delivery method and system are entirely different in structure, function and result from the pointed hooks of the prior art. Only the pointed end of a hook exposed on the end of a filter leg is embedded for a limited distance into the inner surface of the vena cava wall by the expansion of the filter leg into contact with the wall inner surface. This necessity to limit penetration of the hook for only a very limited amount is recognized by the prior art (see US Patent No. 5,059,205 to El-Nounou et al.) and is a criteria set by the FDA for the use of vena cava filter hooks. The point of the hook must be maintained relatively normal to the inner surface of the vena cava wall which it penetrates, for if a hook is permitted to slide directly through the vena cava wall, extreme complications may result. These may include migration of the filter, injury to a patient by movement of the hook outside the vena cava wall with resulting damage to body tissue, and multiple penetrations through the vena cava wall by the hook shank and the pointed end.

Unlike the prior art hooks having a curved structure which requires that only the pointed end section of the hook penetrate just the inner wall surface of the vena cava and extend substantially normal thereto to provide positive retention of the filter in a single direction, Applicants' entire anchor and an end section of the anchor shaft are projected completely through the vena cava wall from the inner surface to the outer surface. The

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anchor then expands against the outer surface to positively anchor a filter in multiple directions. Since the anchor when expanded engages but does not penetrate the outer surface of the vena cava wall, only a single, very small penetration occurs which is filled by the end section of the anchor shaft. Also, unlike a hook, there is no danger that applicants' anchor will move too far through the vena cava wall and damage other body tissue, as the distance that the anchor can move is positively controlled by the structure which facilitates and limits movement of the anchor shaft to propel the anchor through the vena cava wall.

The Ravenscroft et al. patent No. 6,007,558, in particular, is directed solely to a structure for withdrawing hooks at the ends of filter legs which have pointed ends previously implanted in the inner wall surface of the vena cava by expansion of the filter legs (column 4, lines 53-58; column 7, lines 17-21). There is no structure disclosed or teaching provided relative to maintaining these hooks within the filter legs while moving the filter into position within the vena cava or until after the filter legs have expanded into contact with the inner wall surface of the vena cava. There is certainly no structure or disclosure relating to the projection of these hooks through the vena cava wall from an inner to an outer surface, for such would be likely to result in the damage to body tissue previously noted. Instead, the only structure shown by the Ravenscroft et al. patent is an externally operated pull rod 36 for withdrawing previously embedded hooks. There is no other externally operated structure for moving the filter into position within the vena cava, and if the pull rod is used to push the filter into place, the hooks would be thereby exposed and not maintained within the filter legs as are applicants' anchors. This exposure of the hooks is required if they are to be properly engaged by expansion of the filter legs against the inner wall surface of the vena cava wall.

Referring briefly to new claims 31-39, 48 and 41-42, once a filter has expanded into position within the vena cava, the subsequent longitudinal propulsion of an anchor and distal end section of an anchor shaft out of a filter leg and through the vena cava wall is likely to cause unwanted movement of an unrestrained filter leg. These claims define a method and structure for retention of the filter legs against such movement as the anchors are propelled out. Since none of the cited references show the longitudinal propulsion of anchors from filter legs, there is no requirement to lock or retain the filter legs as claimed by claims 31-39, 48, and 41-42, and these references provide no such disclosure.

Claims 40-50 specify that both an anchor and the distal end section of an anchor shaft

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to which the anchor is attached are propelled through a blood vessel wall subsequent to expansion of a filter leg which encloses the anchor into contact with the inner surface of the wall. The anchor then expands laterally from the distal end section of the anchor shaft against the outer surface of the blood vessel wall. No reference of record discloses enclosing an anchor in a filter leg until after the filter leg engages a blood vessel wall, nor do the references disclose propelling both an anchor and the distal end section of an anchor shaft through the blood vessel wall.

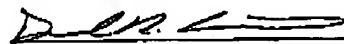
Claims 43-46 and 50 each indicate that the anchor, once it is propelled completely through the blood vessel wall, expands to engage the outer surface of the blood vessel wall in at least two spaced locations. This provides retention of a filter in multiple directions, a result not attainable with the hooks of the prior art references.

Finally, claims 47-50 define the manner in which the amount of longitudinal movement of the anchor shafts is controlled to make certain that the anchors and the distal end sections of the anchor shafts are moved only for a distance sufficient to pass them through the blood vessel wall but not beyond. No reference of record shows this structure.

In view of the foregoing, Applicant submits that claims 2, 6-7, 14, 16-17, 19-28 and 31-50 are in condition for allowance. An early Notice of Allowance is requested.

The Examiner is invited to contact the undersigned should he/she believe that there are any outstanding issues to be resolved.

Respectfully submitted,



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